IN THE CLAIMS:

Please cancel claims 1-7 without prejudice or disclaimer, and substitute new claims 8-14 therefore as follows:

Claims 1-7 (Cancelled).

8.   (New) A method for producing an optical fiber having low polarization mode dispersion, comprising the steps of

a) providing an optical fiber preform of glass material;

b) heating the glass material of an end portion of the optical fiber preform;

c) drawing the heated glass material at a drawing speed V to form an optical fiber, the drawn glass material having a viscous zone; and

d) applying to the optical fiber a substantially sinusoidal spin, which is transmitted to the viscous zone;

the spin function frequency v, the viscous zone length L and the drawing speed V being such that both a torsion and at least a 50% detorsion are applied to the viscous zone.

9.   (New) The method according to claim 8, wherein the spin function frequency v, the viscous zone length L and the drawing speed V are such that $1.2*L \leq V/v \leq 6.7*L$.

10.   (New) The method according to claim 8, wherein the spin function frequency v, the viscous zone length L and the drawing speed V are such that both a torsion and at least a 60% detorsion are applied to the viscous zone.

11.   (New) The method according to claim 10, wherein the spin function frequency v, the viscous zone length L and the drawing speed V are such that $1.7^*L \leq V/v \leq 3.3^*L$.

12.   (New) The method according to claim 8, wherein the spin function frequency v, spin function amplitude θ_0 and the drawing speed V are such that the maximum applied torsion is at least of 4 turns/meter.

13.   (New) The method according to claim 12, wherein the spin function frequency v, the spin function amplitude θ_0 and the drawing speed V are such that the maximum frozen-in torsion is no more than 4 turns/meter.

14.   (New) The method according to claim 13, wherein the spin function amplitude θ_0 (in turns) is such that $(2V)/(v\pi) \leq \theta_0 \leq (2V)/[v\pi(1-R)]$, wherein V is the drawing speed (in meters/second), v is the spin function frequency (in Hz), R is the ratio $(T_{appl}-T_{fr})/T_{appl}$, T_{appl} is the maximum actually applied torsion and T_{fr} is the maximum frozen-in torsion.